V_Z(max.) = 31 V
Transient Voltage Suppressor

SJPZ-K28

Data Sheet

Description

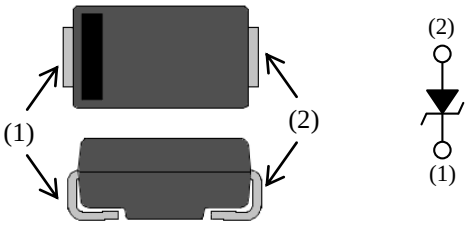
SJPZ-K28 is power zener diode designed for the protection of automotive electronic units from especially the surge generated during load dump conditions, voltage transients induced by inductive loads.

Features

- AEC-Q101 Qualified
- Meets ISO7637-2 Surge Protection Specification (Pulse 1-3)
- High Reliability
- High Surge Capability
- Flammability UL94V-0 (Equivalent)
- Compliant with RoHS Directive

Package

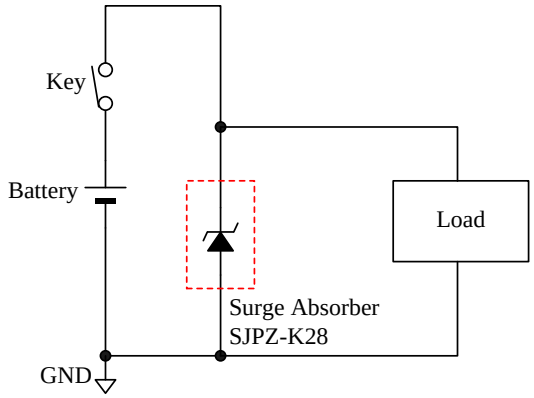
SJP



(1) Cathode
(2) Anode

Not to Scale

Typical Application



SJPZ-K28

Products	V_Z		P_{RSM}	P_D
	Min.	Max.		
SJPZ-K28	25V	31V	50W	1 W

*5ms, single block pulse

Application

Protection of sensitive electronic equipment in passenger cars, trucks, vans and buses:

- Engine Control Units
- Electric Control Units
- Braking System
- Power Steering System
- Airbags
- Audio & Infotainment Equipment

Absolute Maximum Ratings

Unless specifically noted T_A = 25 °C.

Parameter	Symbol	Conditions	Rating	Unit	Remarks
Power Dissipation (1)	P_D	Lead temperature, T_L (2)	1	W	
DC Blocking Voltage	V_{DC}		20	V	
Peak Reverse Power	P_{RSM}	5ms, single block pulse	50	W	
Junction Temperature	T_j		−40 to 150	°C	
Storage Temperature	T_{stg}		−40 to 150	°C	

Electrical Characteristics

Unless specifically noted, T_A = 25 °C.

Parameter	Symbol	Conditions	Rating	Unit	Remarks	単位	備考
Forward Voltage Drop	V_F	I_F = 1 A	−	−	0.95	V	
Reverse Leakage Current	I_R	V_R = 20V	−	−	10	μA	
Breakdown Voltage	V_Z	I_Z = 1 mA	25	−	31	V	
Breakdown Voltage Temperature Coefficient	r_Z	I_Z = 1 mA	−	25	−	mV/°C	
Breakdown Region Equivalent Resistance	R_Z	I_Z = 1mA~10m A	−	26	−	Ω	
Thermal Resistance	$R_{th(j-L)}$	(3)	−	20	−	°C/W	

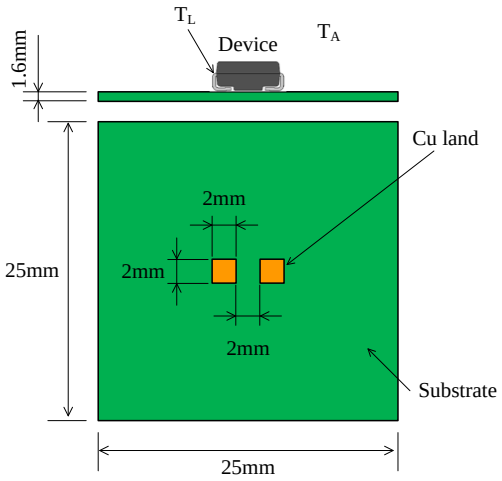


Figure 1 Lead temperature measurement condition

(1) See Figure 2, Power Dissipation Curve.
(2) See Figure 1.
(3) $R_{th(j-L)}$ is thermal resistance between junction and lead. Lead temperature is measured as shown in Figure 1.

Power Dissipation

See Figure 1 about the measurement condition of Power Dissipation.

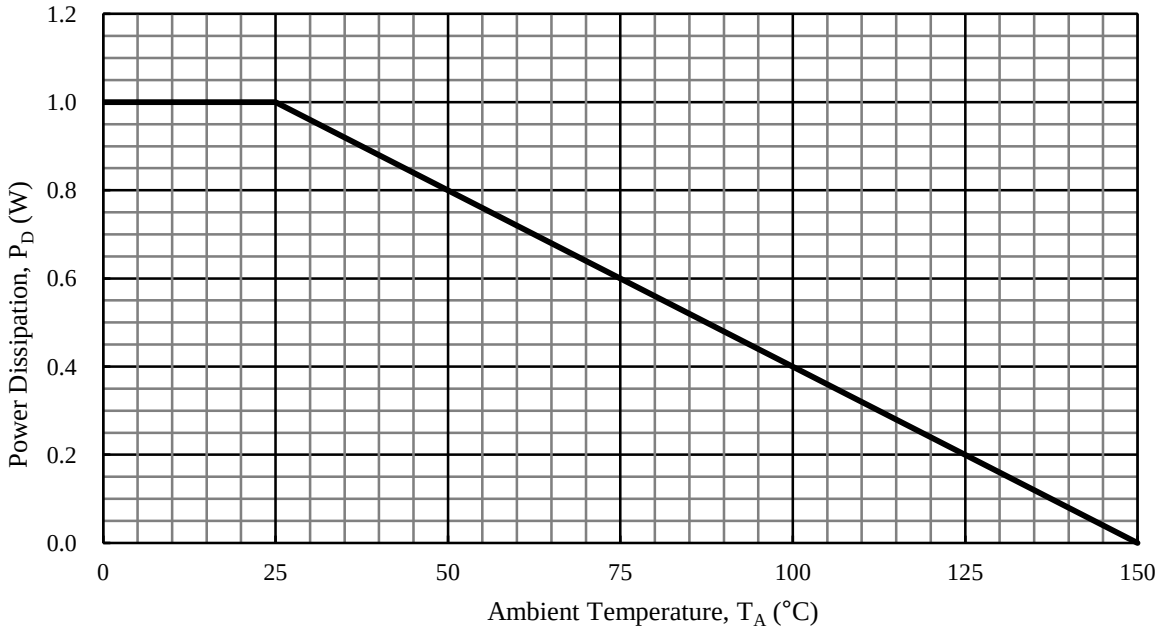


Figure 2 Power Dissipation Curve

Peak Surge Reverse Power Capability

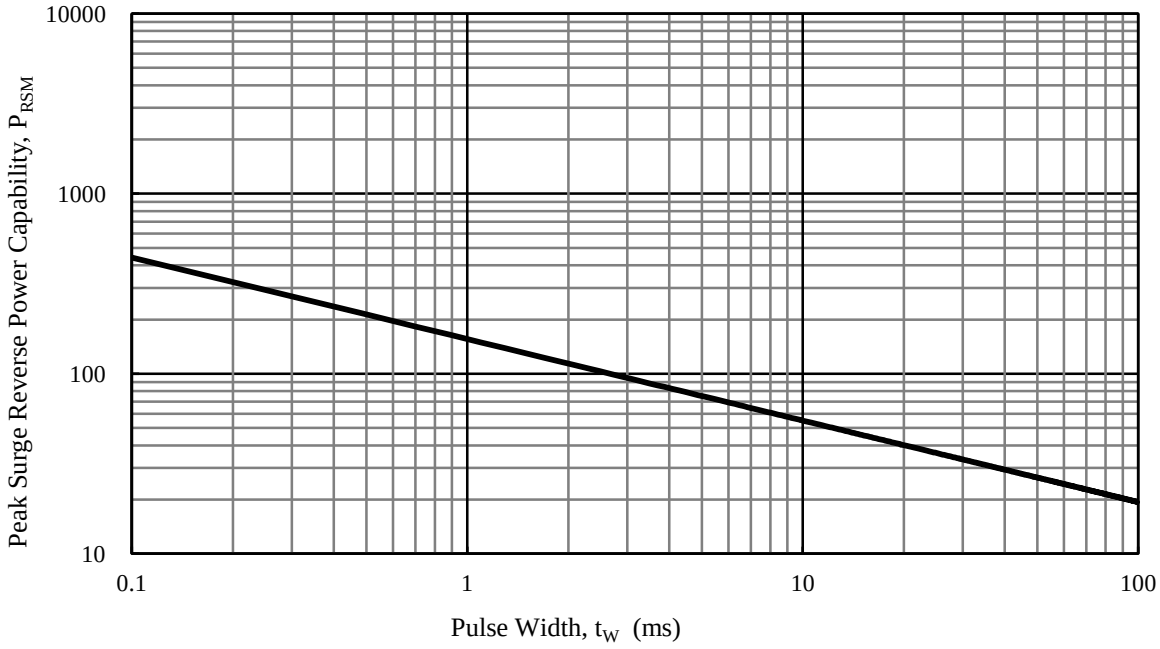


Figure 3 Peak Surge Reverse Power Capability[4]

[4] The pulse is single block pulse.

Typical Characteristics

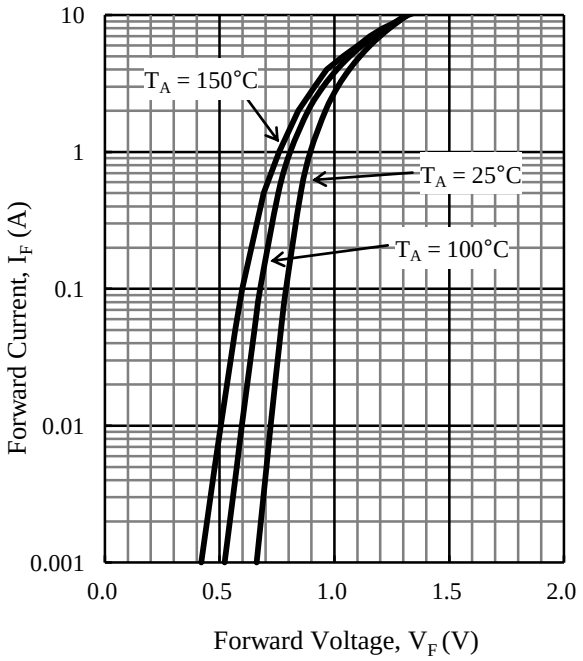


Figure 4 $I_F - V_F$ typical characteristics

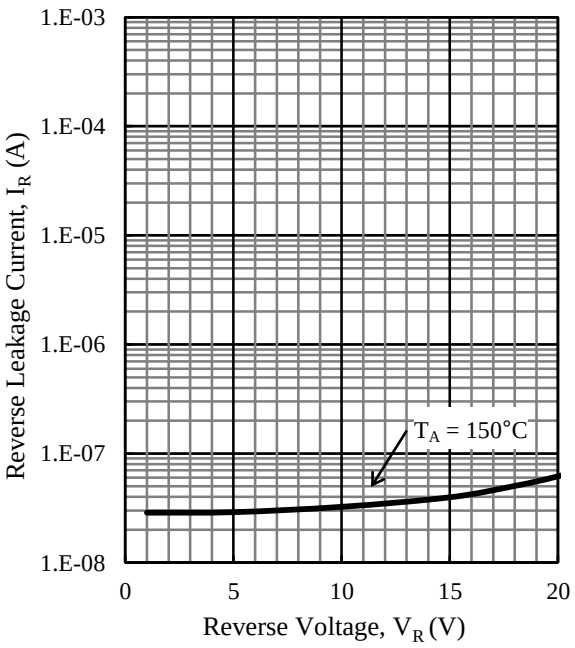


Figure 5 $I_R - V_R$ typical characteristics[5]

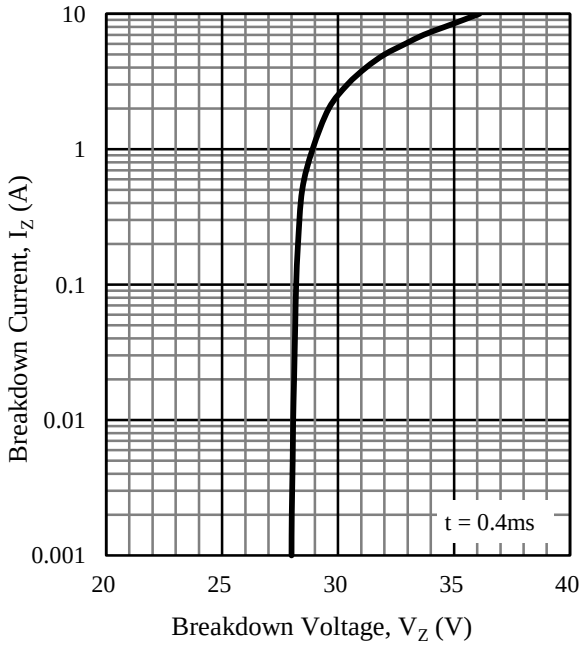


Figure 6 $I_Z - V_Z$ typical characteristics

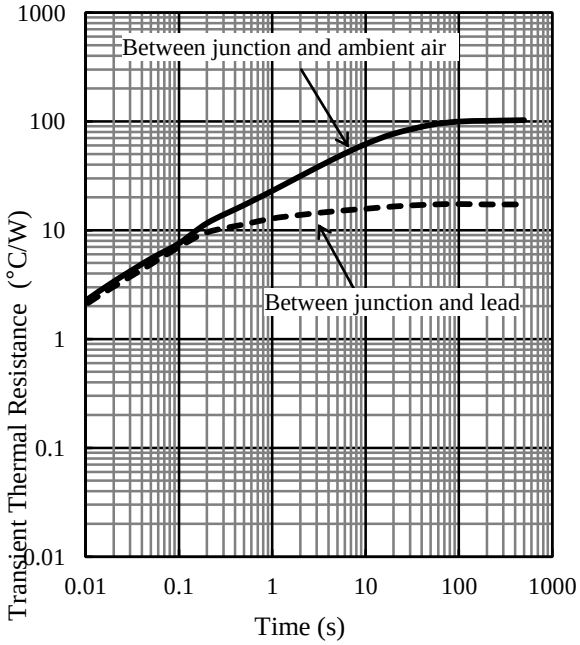


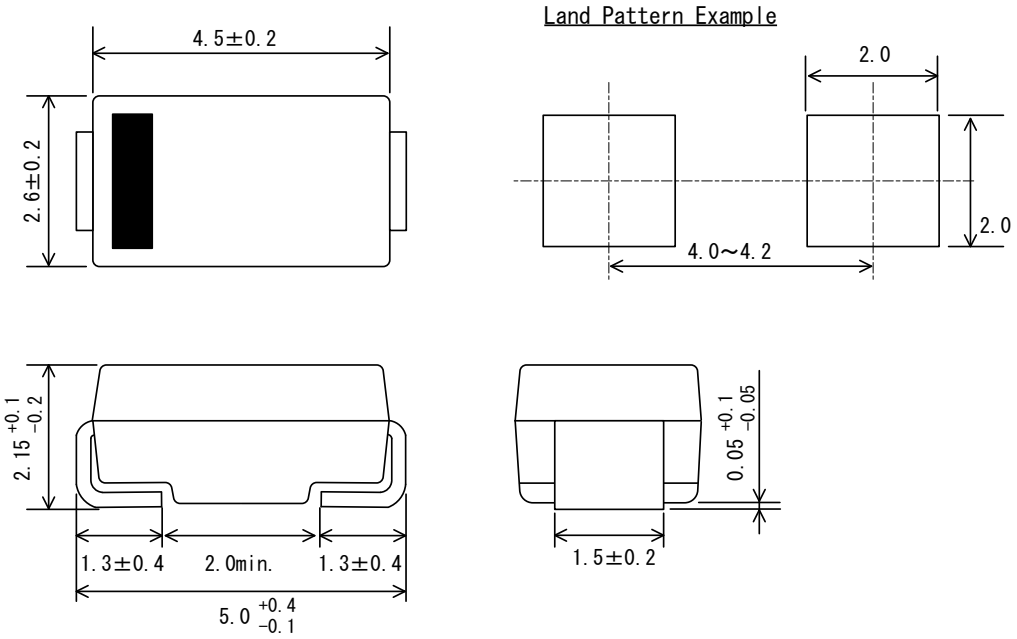
Figure 7 Typical transient thermal resistance[6]

[5] I_R is less than 1.0E-8 in 100°C or less.

[6] Lead temperature is measured as shown in Figure 1.

External Dimensions

● SJP



NOTES:

● Dimension is in millimeters.
● Lead treatment Pb-free. Device composition compliant with the RoHS directive.
● MSL：JEDEC LEVEL1

Marking Diagram

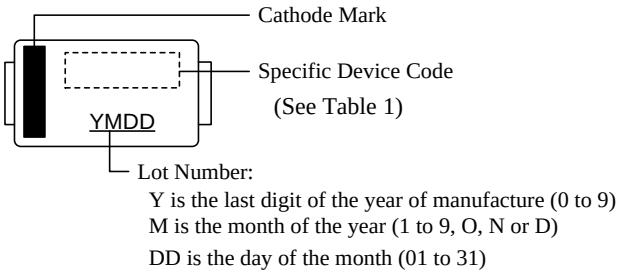


Table 1 Specific Device Code

Specific Device Code	Products
ZK28	SJPZ-K28

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DSGN-AEZ-16001